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EXAMINER

CHAU, COREY P

ART UNIT PAPER NUMBER

2644

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/893,136	DENAP ET AL.	
	Examiner	Art Unit	
	Corey P Chau	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 1-17, 30-34, and 40-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-29, 35-39 and 42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/30/01</u> ✓ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

- I. Claims 1-7, 30-32, and 40, drawn to an electro-optical headset, classified in class 381, subclass 74.
  - II. Claims 8-17, 33-34, and 41, drawn to an electro-optical microphone, classified in class 381, subclass 172.
  - III. Claims 18-29, 35-39, and 42, drawn to an electro-optical headset and microphone, classified in class 381, subclass 375.
1. The inventions are distinct, each from the other because of the following reasons:
  2. Inventions I and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed regarding an electro-optical headset and microphone does not require the particulars of the subcombination as claimed regarding the electro-optical headset. The subcombination has separate utility because any electro-optical headset can be used for the electro-optical headset and microphone.
  3. Inventions II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP §

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806.05(c)). In the instant case, the combination as claimed regarding an electro-optical headset and microphone does not require the particulars of the subcombination as claimed regarding the electro-optical microphone. The subcombination has separate utility because any electro-optical microphone can be used for the electro-optical headset and microphone.

4. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility because it does not disclose details of invention II, therefore any electro-optical microphone can be used. See MPEP § 806.05(d).

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Lawrence Aaronson on 5/11/2005 a provisional election was made without traverse to prosecute the invention of III, claims 18-29, 35-39, and 42. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-17, 30-34, and 40-41 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Specification***

7. The disclosure is objected to because of the following informalities: on page 17, line 8, recites "wedge 180", which should be replaced with "wedge 108".

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 18, 19, 24, 29, 35 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 20010034253 to Ruschin.
10. Regarding Claim 18, Ruschin discloses an electro-optical headset (Fig. 1) comprising: an electro-optical interface (14) for receiving a first electrical signal representative of first audio and for producing a first modulated light signal based on the first electrical signal, and for receiving a second modulated light signal and demodulating the second modulated light signal to produce a second electrical signal representative of second audio (Fig. 1); an optical link (30) having a first end and a second end, the first end being coupled to the electro-optical interface for receiving the first modulated light signal and for transmitting the second modulated light signal (Fig.

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1); an optical receiver (22) coupled to the second end of the optical link for receiving the first modulated light signal, and for demodulating the first modulated light signal to produce a third electrical signal representative of the first audio (Fig. 1); a headset speaker element (24) electrically connected with the optical receiver for receiving the third electrical signal and producing first sound waves based on the third electrical signal; and a microphone element (26) coupled to the second end of the optical link for receiving the first modulated light signal and for transmitting the second modulated light signal, and for modulating the first modulated light signal to produce the second modulated light signal representative of the second audio (Fig. 1; page 3, paragraphs 0040 and 0041).

11. Regarding Claim 19, Ruschin discloses at least one electrical audio connector coupled with the electro-optical interface for receiving the first electrical signal from electronic equipment and for transmitting the second electrical signal to the electronic equipment (Fig. 1; page 3, paragraph 0035).

12. Regarding Claim 24, Ruschin discloses the first modulated light signal is generated by a laser light emitting diode (Figs. 2 and 3).

13. Regarding Claim 29, Ruschin discloses the electro-optical interface comprises a semiconductor device for receiving the second modulated light signal, and wherein the semiconductor device is selected from the group consisting of a photodiode and a phototransistor (Figs. 1-3).

14. Regarding Claim 35, Ruschin discloses a system comprising: a mobile station (Fig. 1); an electro-optical interface (14) for receiving a first electrical signal from the

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mobile station representative of first audio, and for producing a first modulated light signal based on the first electrical signal, and for receiving a second modulated light signal and demodulating the second modulated light signal to produce a second electrical signal for transmission to the mobile station representative of second audio (Fig. 1); an optical link (30) having a first end and a second end, the first end being coupled to the electro-optical interface for receiving the first modulated light signal and for transmitting the second modulated light signal; an optical receiver (22) coupled to the second end of the optical link for receiving the first modulated light signal, and for demodulating the first modulated light signal to produce a third electrical signal representative of the first audio; a headset speaker element (24) electrically connected with the optical receiver for receiving the third electrical signal and producing first sound waves based on the third electrical signal (Fig. 1); and a microphone element (26) coupled to the second end of the optical link for receiving the first modulated light signal and for transmitting the second modulated light signal, and for modulating the first modulated light signal to produce the second modulated light signal representative of the second audio (Fig. 1; page 3, paragraphs 0040 and 0041).

15. Claim 39 is essentially similar to Claim 24 and is rejected for the reasons stated above apropos to Claim 24.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent Application Publication No. 20010034253 to Ruschin.

18. Regarding Claim 20, Ruschin does not expressly disclose the optical receiver is a photo-voltaic cell. However it would have been obvious to one having ordinary skill in the art that any known type of photo-detector can be utilized, such as photo-voltaic cell in order to generate an electrical signal from the light source.

19. Claims 21-23 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20010034253 to Ruschin in view of U.S. Patent No. 6055500 to Terui et al. (hereafter as Terui).

20. Regarding Claim 21, Ruschin discloses the microphone element comprises: an electrical microphone (26) for receiving second sound waves representative of the second audio and for producing a fourth electrical signal based on the second sound waves (Fig. 1).

Ruschin does not expressly disclose an electro-optical shutter electrically connected to the electrical microphone for receiving the first modulated light signal and modulating the first modulated light signal to produce the second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal. However it would have been obvious to one having ordinary skill in the art that LED or a laser emitting diode using light or an infrared ray, or an optical shutter using an



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LCD may be used as a transmission enable signal output means, and an element such as a PIN diode or a phototransistor for converting light into an electrical signal may be used as a transmission enable signal reception means, as taught by Terui. Therefore it would have been obvious to one having ordinary skill in the art to modify Ruschin with the teaching of Terui to utilize any known methods of receiving a light signal, such as an optical shutter using an LCD may be used as a transmission enable signal output means.

Ruschin as modified discloses optical couplers at each end of the signal fiber, as will be clear to one ordinarily skilled in the art (page 3, paragraph 0041), but does not expressly disclose a directional optical coupler for receiving the first modulated light signal from the second end of the optical link and directing the first modulated light signal to the electro-optical shutter, and for receiving the second modulated light signal from the electro-optical shutter and directing the second modulated light signal to the second end of the optical link. However it would have been obvious to one having ordinary skill in the art that a directional optical coupler can substitute for the optical coupler, as taught by Kitasagami. Kitasagami disclose a directional optical coupler can substitute for the optical coupler. Therefore it would have been obvious to one having ordinary skill in the art to modify Ruschin as modified with the teaching of Kitasagami to utilize a directional optical coupler in place of the optical couplers (i.e. a directional optical coupler for receiving the first modulated light signal from the second end of the optical link and directing the first modulated light signal to the electro-optical shutter,

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and for receiving the second modulated light signal from the electro-optical shutter and directing the second modulated light signal to the second end of the optical link).

21. All elements of claim 22 are comprehended by Claim 21. Claim 22 is rejected for the reasons stated above apropos to Claim 21.

22. Regarding Claim 23, Ruschin as modified discloses a microphone 26, but does not expressly disclose the electrical microphone is a piezoelectric microphone. However it would have been obvious to one having ordinary skill in the art to utilize any well known types of microphone in the art such as a piezoelectric microphone.

23. Claim 36 is essentially similar to Claim 21 and is rejected for the reasons stated above apropos to Claim 21.

24. Claim 37 is essentially similar to Claim 22 and is rejected for the reasons stated above apropos to Claim 22.

25. Claim 38 is essentially similar to Claim 23 and is rejected for the reasons stated above apropos to Claim 23.

26. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20010034253 to Ruschin in view of U.S. Patent No. 5812295 to Kitasagami.

27. Regarding Claim 25, Ruschin discloses optical couplers at each end of the signal fiber, as will be clear to one ordinarily skilled in the art (page 3, paragraph 0041), but does not expressly disclose a directional optical coupler for receiving the first modulated light signal from the second end of the optical link and directing the first modulated light

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signal to the optical receiver and the microphone element, and for receiving the second modulated light signal from the microphone element and directing the second modulated light signal to the second end of the optical link. However it would have been obvious to one having ordinary skill in the art that a directional optical coupler can substitute for the optical coupler, as taught by Kitasagami. Kitasagami disclose a directional optical coupler can substitute for the optical coupler. Therefore it would have been obvious to one having ordinary skill in the art to modify Ruschin as modified with the teaching of Kitasagami to utilize a directional optical coupler in place of the optical couplers (a directional optical coupler for receiving the first modulated light signal from the second end of the optical link and directing the first modulated light signal to the optical receiver and the microphone element, and for receiving the second modulated light signal from the microphone element and directing the second modulated light signal to the second end of the optical link).

28. Regarding Claim 26, Ruschin as modified does not expressly disclose an optical splitter for receiving the first modulated light signal from the directional optical coupler and directing the first modulated light signal to the optical receiver along a first optical path and directing the first modulated light signal to the microphone element along a second optical path. However it would have been obvious to one having ordinary skill in the art to utilize a optical splitter in order to direct the first modulated light signal to the optical receiver along a first optical path and direct the first modulated light signal to the microphone element along a second optical path

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29. Regarding Claim 27, Ruschin discloses optical couplers at each end of the signal fiber, as will be clear to one ordinarily skilled in the art (page 3, paragraph 0041), but does not expressly disclose a directional optical coupler for receiving the first modulated light signal from the electro-optical interface and directing the first modulated light signal to the first end of the optical link, and for receiving the second modulated light signal from the first end of the optical link and directing the second modulated light signal to the electro-optical interface. However it would have been obvious to one having ordinary skill in the art that a directional optical coupler can substitute for the optical coupler, as taught by Kitasagami. Kitasagami disclose a directional optical coupler can substitute for the optical coupler. Therefore it would have been obvious to one having ordinary skill in the art to modify Ruschin as modified with the teaching of Kitasagami to utilize a directional optical coupler in place of the optical couplers (a directional optical coupler for receiving the first modulated light signal from the electro-optical interface and directing the first modulated light signal to the first end of the optical link, and for receiving the second modulated light signal from the first end of the optical link and directing the second modulated light signal to the electro-optical interface).

30. Claims 21-23 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20010034253 to Ruschin in view of U.S. Patent No. 6154301 to Harvey.

Regarding Claim 28, Ruschin discloses the electro-optical interface comprises: an optical modulator (18) configured for receiving an audio-out signal from cellular

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communication unit and generating a corresponding first optical signal, but does not expressly disclose a pulse width modulation circuit for receiving the first electrical signal and producing the first modulated light signal, wherein the first modulated light signal is pulse width modulated based on the first electrical signal. However it would have been obvious to one having ordinary skill in the art to utilize any well known techniques of modulation such as pulse width modulation in order to receive the first electrical signal and producing the first modulated light signal.

Ruschin as modified discloses the electro-optical interface comprises: an optical receiver responsive to a received optical signal to generate a corresponding electrical audio-in signal to be provide to the electrical input of cellular communication unit, but does not expressly disclose a sample-and-hold circuit for receiving the second modulated light signal and producing the second electrical signal, wherein the second modulated light signal is amplitude modulated based on the second audio. However it would have been obvious to one having ordinary skill in the art to utilize any well known methods of receiving a modulated light signal and producing an electrical signal, such as that of Harvey. Harvey discloses an optical receiver comprising a photodetector and a sampling circuit 43, wherein the sampling circuit is gated by a binary output signal from a trigger circuit so as to sample an amplitude of the analog signal during those intervals when light is being received (i.e. a sample-and-hold circuit for receiving the second modulated light signal and producing the second electrical signal, wherein the second modulated light signal is amplitude modulated based on the second audio)(column 2, lines 49-65). Therefore it would have been obvious to one having

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ordinary skill in the art to modify Ruschin with the teaching of Harvey to utilize an optical receiver comprising a photodetector and a sampling circuit 43, wherein the sampling circuit is gated by a binary output signal from a trigger circuit so as to sample an amplitude of the analog signal during those intervals when light is being received.

31. Claims 21-23 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20010034253 to Ruschin in view of U.S. Patent No. 6055500 to Terui, U.S. Patent No. 5812295 to Kitasagami, and U.S. Patent No. 6154301 to Harvey.

32. Regarding Claim 42, Ruschin discloses an electro-optical headset (Fig. 1) comprising: an optical modulator (18) configured for receiving an audio-out signal from cellular communication unit and generating a corresponding first optical signal, but does not expressly disclose a pulse width modulation circuit for receiving a first electrical signal representative of first audio and producing a first modulated light signal from a laser light emitting diode, wherein the first modulated light signal is pulse width modulated based on the first electrical signal. However it would have been obvious to one having ordinary skill in the art to utilize any well known techniques of modulation such as pulse width modulation in order to receive a first electrical signal representative of first audio and producing a first modulated light signal from a laser light emitting diode, wherein the first modulated light signal is pulse width modulated based on the first electrical signal.

Ruschin as modified discloses an electro-optical headset (Fig. 1) comprising: an optical receiver responsive to a received optical signal to generate a corresponding electrical audio-in signal to be provide to the electrical input of cellular communication unit, but does not expressly disclose a sample-and-hold circuit for receiving a second modulated light signal in a photo-detector and producing a second electrical signal representative of second audio, wherein the second modulated light signal is amplitude modulated based on the second audio. However it would have been obvious to one having ordinary skill in the art to utilize any well known methods of receiving a modulated light signal and producing an electrical signal, such as that of Harvey. Harvey discloses an optical receiver comprising a photodetector and a sampling circuit 43, wherein the sampling circuit is gated by a binary output signal from a trigger circuit so as to sample an amplitude of the analog signal during those intervals when light is being received (i.e. a sample-and-hold circuit for receiving a second modulated light signal in a photo-detector and producing a second electrical signal representative of second audio, wherein the second modulated light signal is amplitude modulated based on the second audio)(column 2, lines 49-65). Therefore it would have been obvious to one having ordinary skill in the art to modify Ruschin with the teaching of Harvey to utilize an optical receiver comprising a photodetector and a sampling circuit 43, wherein the sampling circuit is gated by a binary output signal from a trigger circuit so as to sample an amplitude of the analog signal during those intervals when light is being received.

Ruschin as modified discloses optical couplers at each end of the signal fiber, as will be clear to one ordinarily skilled in the art (page 3, paragraph 0041), but does not expressly disclose a first directional optical coupler for receiving the first modulated light signal from the pulse width modulation circuit and directing the first modulated light signal to the first end of the optical link, and for receiving the second modulated light signal from the first end of the optical link and directing the second modulated light signal to the photo-detector in the sample-and-hold circuit. However it would have been obvious to one having ordinary skill in the art that a directional optical coupler can substitute for the optical coupler, as taught by Kitasagami. Kitasagami disclose a directional optical coupler can substitute for the optical coupler. Therefore it would have been obvious to one having ordinary skill in the art to modify Ruschin as modified with the teaching of Kitasagami to utilize a directional optical coupler in place of the optical couplers (a first directional optical coupler for receiving the first modulated light signal from the pulse width modulation circuit and directing the first modulated light signal to the first end of the optical link, and for receiving the second modulated light signal from the first end of the optical link and directing the second modulated light signal to the photo-detector in the sample-and-hold circuit).

Ruschin as modified discloses an optical link (30) having a first end and a second end, the first end being coupled to first directional optical coupler for receiving the first modulated light signal and for transmitting the second modulated light signal (Fig. 1).

Ruschin as modified discloses optical couplers at each end of the signal fiber, as will be clear to one ordinarily skilled in the art (page 3, paragraph 0041), but does not



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expressly disclose a second directional optical coupler coupled to the second end of the optical link for receiving the first modulated light signal from the second end of the optical link and for transmitting the second modulated light signal to the second end of the optical link. However it would have been obvious to one having ordinary skill in the art that a directional optical coupler can substitute for the optical coupler, as taught by Kitasagami. Kitasagami disclose a directional optical coupler can substitute for the optical coupler. Therefore it would have been obvious to one having ordinary skill in the art to modify Ruschin as modified with the teaching of Kitasagami to utilize a directional optical coupler in place of the optical couplers (a second directional optical coupler coupled to the second end of the optical link for receiving the first modulated light signal from the second end of the optical link and for transmitting the second modulated light signal to the second end of the optical link).

Ruschin as modified does not expressly disclose the optical receiver is a photo-voltaic cell. However it would have been obvious to one having ordinary skill in the art that any known type of photo-detector can be utilized, such as photo-voltaic cell in order to generate an electrical signal from the light source, therefore a photo-voltaic cell coupled to the second directional optical coupler for receiving the first modulated light signal, and for demodulating the first modulated light signal to produce a third electrical signal representative of the first audio.

Ruschin as modified discloses a headset speaker (24) element electrically connected with the photo-voltaic cell for receiving the third electrical signal and producing first sound waves based on the third electrical signal.

Ruschin as modified does not expressly disclose an optical splitter for receiving the first modulated light signal from the second directional optical coupler and directing the first modulated light signal to the photo-voltaic cell along a first optical path.

However it would have been obvious to one having ordinary skill in the art to provide such an optical splitter for receiving the first modulated light signal from the second directional optical coupler in order to direct the first modulated light signal to the photo-voltaic cell along a first optical path.

Ruschin as modified discloses an electrical microphone (26) for receiving second sound waves representative of the second audio and for producing a fourth electrical signal based on the second sound waves representative of the second audio.

Ruschin as modified does not expressly disclose a liquid crystal display element electrically connected to the electrical microphone for receiving the first modulated light signal along a second optical path from the optical splitter and modulating the first modulated light signal to produce the second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal, and wherein the second modulated light signal traverses a third optical path and is received by the second directional optical coupler for transmission to the second end of the optical link. However it would have been obvious to one having ordinary skill in the art that LED or a laser emitting diode using light or an infrared ray, or an optical shutter using an LCD may be used as a transmission enable signal output means, and an element such as a PIN diode or a phototransistor for converting light into an electrical signal may be used as a transmission enable signal reception means, as taught by

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Terui. Therefore it would have been obvious to one having ordinary skill in the art to modify Ruschin with the teaching of Terui to utilize any known methods of receiving a light signal, such as an optical shutter using an LCD may be used as a transmission enable signal output means (i.e. a liquid crystal display element electrically connected to the electrical microphone for receiving the first modulated light signal along a second optical path from the optical splitter and modulating the first modulated light signal to produce the second modulated light signal, wherein the second modulated light signal is representative of the fourth electrical signal, and wherein the second modulated light signal traverses a third optical path and is received by the second directional optical coupler for transmission to the second end of the optical link).

### ***Conclusion***

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Sinh can be reached on (571)272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 27, 2005



XU MEI  
PRIMARY EXAMINER